

REMARKS/ARGUMENTS

I. Status of the Claims

Claims 69-89, 109-111, 113, and 118-125 are currently pending. Claims 69-89 have been withdrawn from consideration as being directed to a non-elected invention. Claims 109-111, 113, and 118-125 are under consideration. Claims 66-68 and 123 are canceled. Claims 109-111, 113, 118-122, and 124 are allowed. Claim 125 has been rewritten in independent form.

II. The Invention

Interactions between recognition moieties, which are components of an organic layer, and analytes can be amplified and transduced into optical signals through the use of a mesogenic layer. This invention provides a device for detecting these analyte-recognition moiety interactions.

As presently claimed, the device comprises a substrate onto which an organic layer is attached and a mesogenic layer which is anchored by the organic layer. An interaction between a recognition moiety and an analyte introduces a change in the orientation of the organic layer, which is subsequently transduced to the mesogens of the mesogenic layer. Interaction-induced changes in the intensity of light transmitted through the mesogenic layer are then detected.

III. Support for the Amendments

Support for the amendments to the claims can be found throughout the specification and the claims as originally drafted.

Claim 125 is rewritten in independent form. Support for this amendment is found in originally filed claims 66 and 125.

IV. Response to the Claim Objection

Claim 125 is objected to for being dependent upon a rejected base claim. Applicant has remedied this situation by rewriting claim 125 in independent form. Applicant respectfully requests withdrawal of this objection.

V. Responses to the Claim Rejections

Under 35 U.S.C. § 102(b)

a) Over Spohn

Claims 66-68 are rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Spohn (East German Pat. No. DD 278869) and attached CAPLUS AN:1991:243888 ("Conductometric Biosensor for Use in Organic Solvent.") ("Spohn"). In order to expedite prosecution, Applicant cancels claims 66-68.

b) Over Drawhorn

Claims 66-68 and 123 are rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Drawhorn and Abbott, *J. Phys. Chem.*, **99**:16511-16515 (1995) ("Drawhorn"). Drawhorn is cited for teaching, among other things, SAMs with an alkyl group as a recognition moiety. In order to expedite prosecution, Applicant cancels claims 66-68 and 123.

Under 35 U.S.C. § 102(e)

Claims 66-68 are rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Matsuda *et al.*, (U.S. Patent No. 6,106,906) ("Matsuda"). Matsuda is cited for teaching a display apparatus comprising a liquid crystal comprising an alignment film on at least one of two opposing substrates wherein the alignment film comprises an 'organic layer' comprising a 'carboxylic acid' or an 'organometallic' compound with displaceable ligands ionically interacting with an 'inorganic ion' with the later formation of a 'polyamide' which is 'rubbed' prior to the

Appl. No. 09/637,844
Amdt. dated July 1, 2004
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 1639
Reply to Final Office Action of February 2, 2004

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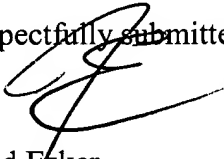
addition of a 'mesogenic layer'. In order to expedite prosecution, Applicant cancels claims 66-68.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-442-1000.

Respectfully submitted,


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